

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

*Sub 1* (Currently Amended) A method of routing between a source node and a destination node in a network having nodes connected by links, wherein at least one link uses signal compression and the remaining links do not use signal compression is used on at least one of said links, wherein the method comprises:

*d 1* performing at least two routing calculations for a maximum given number of links using signal compression ~~compressions~~, said routing calculations comprising a first routing calculation for a number of links using signal compression that is ~~compressions~~ less than said maximum given number, and a second routing calculation for said maximum ~~a given~~ number of links using signal compression ~~compressions~~ using information obtained from the first routing calculation.

2. (Previously Presented) The method according to claim 1, wherein the method further comprises choosing a cost function and wherein the routing calculations minimize the cost function.

3. (Currently Amended) The method according to claim 1, wherein a routing calculation ~~for a given number of signal compressions~~ comprises, at a node where the number of links using signal compression ~~compressions~~ from the source node is equal to the maximum given number, seeking and saving for a subsequent routing calculation adjacent links on which signal compression is used.

4. (*Previously Presented*) The method according to claim 1, wherein a routing calculation for a given number of signal compressions uses the Dijkstra algorithm and verifies the number of signal compressions when adding a node to the route.

5. (*Currently Amended*) The method according to claim 1, wherein the network further comprises overflow links to an external network, said method further comprises at least two overflow routing calculations for a maximum given number of overflows and for the maximum a given number of signal compressions, said overflow routing calculations comprising a first overflow routing calculation for a number of overflows less than said maximum number of overflows given number, and a second overflow routing calculation for a the maximum number of overflows and a the maximum given number of links using signal compression ~~compressions~~ using information obtained from said first overflow routing calculation.

6. (*Previously Presented*) The method according to claim 5, wherein the method further comprises choosing a cost function representative of the cost of overflows and wherein the routing calculations minimize the cost function.

7. (*Currently Amended*) The method according to claim 5, wherein the routing calculations are effected for a given number of overflows by varying the number of links using signal compression ~~compressions~~ and then by varying the number of overflows.

8. (*Previously Presented*) The method according to claim 6, wherein the cost function accounts for occupancy of resources in the network.

9. (*Previously Presented*) The method according to claim 8, wherein the cost function accounts for charges incurred because of overflows.

10. (*Currently Amended*) A method of routing between a source node and a destination node in a network having nodes connected by links, wherein at least one link uses signal compression and the remaining links do not use signal compression ~~is used on at least one of said links~~, wherein the method comprises:

performing a first routing calculation with links that do not use signal compression ~~no signal~~ compressions;

performing a second routing calculation for a number of links using signal compression that is ~~compressions~~ less than a maximum ~~given~~ number of signal compressions; and

performing a third routing calculation for the maximum ~~given~~ number of links using signal compression compressions using information obtained from the first and second routing calculations.

11. (*Previously Presented*) The method according to claim 10, wherein the method further comprises choosing a cost function and wherein the routing calculations minimize the cost function.

12. (*Currently Amended*) The method according to claim 10, wherein a routing calculation for a given number of signal compressions comprises, at a node where the number of links using signal compression ~~compressions~~ from the source node is equal to the maximum ~~given~~ number, seeking and saving for a subsequent routing calculation adjacent links on which signal compression is used.

13. (*Previously Presented*) The method according to claim 10, wherein a routing calculation for a given number of signal compressions uses the Dijkstra algorithm and verifies the number of signal compressions when adding a node to the route.

14. (*Currently Amended*) The method according to claim 10, wherein the network further comprises overflow links to an external network, said method further comprises:

a fourth routing calculation for a number of overflows less than a maximum ~~given~~ number of overflows; and

a fifth routing calculation for the maximum ~~given~~ number of overflows and a ~~given~~ the maximum number of links using signal compression ~~compressions~~ using information obtained from said fourth routing calculation.

15. (*Previously Presented*) The method according to claim 14, wherein the method further comprises choosing a cost function representative of the cost of overflows and wherein the routing calculations minimize the cost function.

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16. (Currently Amended) The method according to claim 14, wherein the routing calculations are effected for a given number of overflows by varying the number of links using signal compression ~~compressions~~ and then by varying the number of overflows.